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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,156	04/25/2001	Shunpei Yamazaki	12732-033001	4159

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EXAMINER	
KIELIN, ERIK J	

ART UNIT	PAPER NUMBER
2813	

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/841,156	YAMAZAKI ET AL.	
	Examiner	Art Unit	
	Erik Kielin	2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *9-12,14,17,19,20 and 23-52* is/are pending in the application.

4a) Of the above claim(s) *23-45* is/are withdrawn from consideration.

5)☒ Claim(s) *9* is/are allowed.

6)☒ Claim(s) *10-12,14,17,19,20 and 47-52* is/are rejected.

7)☐ Claim(s) *46* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 23 June 2004 has been entered.

Claim Objections

2. Claim 46 is objected to because of the following informalities: It appears from the specification and instant claim 9 that Applicant intends the substrate thickness of "300 m" appear to be --300 μm-- instead. Appropriate correction is required.

For the purposes of patentability, the claims will be interpreted in light of the specification to be less than 300 μm.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 11-345688 (**Takaku**) in view of US 5,276,999 (**Bando**).

Regarding claim 10, **Takaku** forming a plurality of semiconductor elements **23, 25** and a plurality of light emitting elements **24** electrically connected to the semiconductor elements, at the front surface of a substrate **1**, the substrate being formed of, *inter alia*, glass or polymeric material (Fig. 6; paragraphs [0023] and [0044]); and

bonding a color filter **4, 5**, made from a transparent substrate **5** with color filter layers/elements **4** thereon, wherein at the back surface of the substrate **1**.

Takaku does not indicate if the backside of the first substrate is chemically-mechanically polished.

Bando teaches chemical mechanical polishing of substrates (col. 5, lines 25-30), for the high flatness required of displays. (See col. 1, lines 6-12.)

It would have been obvious for one of ordinary skill in the art, at the time of the invention to polish the substrate, both front and back, of **Takaku** because **Bando** teaches that high flatness is required for light-emitting displays, such as that in **Takaku**.

5. Claims **11**, 14 and **12**, 19 and **47**, 48 and **50**, 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takaku** in view of US 4,963,788 (**King** et al.)

The prior art of **Takaku**, as explained above, discloses each of the claimed features except for bonding a polarization plate (claims 11 and 12) or anti-reflective film (claims 47 and 50) to the transparent substrate of the color filter.

King discloses a thin film electroluminescent display and is therefore drawn to the same endeavor as is **Takaku**. **King** teaches that contrast can be improved by

providing a polarizer or antireflective coating on the viewer's side surface (i.e. the front side surface) of the display --in spite of the attenuation in luminescence (King col. 1, lines 28-42 and **especially col. 5, lines 9-17**).

It would have been obvious for one of ordinary skill in the art, at the time of the invention to bond an antireflective coating or polarizer to the front surface of the **Takaku** display --i.e. the transparent substrate **5** of the color filter-- in order to improve the contrast, as taught by **King**.

6. Claims **47**, 48, and **50**, 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takaku** in view of US 6,476,783 B2 (**Matthies** et al.).

Regarding claims 47 and 50, the prior art of **Takaku**, as explained above, discloses each of the claimed features except for bonding an antireflection film to the transparent substrate.

Matthies teaches a method of improving contrast to a OLED and is therefore drawn to the same endeavor as is **Takaku**. **Matthies** teaches that the viewer's side surface of the display (i.e. the direction through which the emitted light exits) is always subject to specular reflectance. **Matthies** teaches one solution to the problem is to bond an antireflective coating on the viewer's side surface (Matthies, paragraph bridging cols. 9-10).

It would have been obvious for one of ordinary skill in the art, at the time of the invention to bond an antireflective coating to the viewer's side surface of the **Takaku** display --i.e. the transparent substrate **5** of the color filter-- in order to remove specular reflectance and thereby improve the contrast, as taught by **Matthies**.

7. Claims 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takaku** in view of **King** as applied to claims 11 and 12, respectively, and further in view of **Bando**.

The prior art of **Takaku** in view of **King**, as explained above, discloses each of the claimed features except for chemically mechanically polishing the first substrate.

Bando teaches chemical mechanical polishing of substrates (col. 5, lines 25-30), for the high flatness required of displays. (See col. 1, lines 6-12.)

It would have been obvious for one of ordinary skill in the art, at the time of the invention to polish the substrate, both front and back, of **Takaku** because **Bando** teaches that high flatness is required for light-emitting displays, such as that in **Takaku**.

8. Claims 49 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takaku** in view of **Matthies** as applied to claims 47 and 50, respectively, and further in view of **Bando**.

The prior art of **Takaku** in view of **Matthies**, as explained above, discloses each of the claimed features except for chemically mechanically polishing the first substrate.

Bando teaches chemical mechanical polishing of substrates (col. 5, lines 25-30), for the high flatness required of displays. (See col. 1, lines 6-12.)

It would have been obvious for one of ordinary skill in the art, at the time of the invention to polish the substrate, both front and back, of **Takaku** because **Bando** teaches that high flatness is required for light-emitting displays, such as that in **Takaku**.

Allowable Subject Matter

9. Claim 9 is allowed.

10. Claim 46 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and including the change noted above in the objection.

11. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach or suggest, in combination with the other claimed limitations, polishing the substrate to a specific thickness of less than 300 μm in order to gain "improving directivity of light" as stated in the instant specification at p. 11, lines 17-22.

Response to Arguments

12. Applicant's arguments with respect to all active claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erik Kielin whose telephone number is 571-272-1693. The examiner can normally be reached on 9:00 - 19:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Erik Kielin
Primary Examiner
14 August 2004